

somewhat shortened, wanting the terminal twist. From the examination of other specimens preserved by Mr. Garrod, and now in the Museum of the College of Surgeons, I may add that *Canis rutilans*, *C. primævus*, *C. cerdo*, *C. chama*, and *C. magellanicus* have all folded cæca; but differences can be observed in the length and mode of folding, both in them and in the species stated by Mr. Garrod to resemble *C. familiaris*, though without a larger series it is impossible to say whether some of these differences may not be due to individual peculiarity.

It is, however, clear that the form of the cæcum has nothing to do with a geographical division of Canidæ; nor is it, as far as is yet known, correlated with any other structural modification.

The female example of the very handsome and rare Red Wolf or Fox (*Canis jubatus*) from Buenos Ayres, which died lately, after a residence of two years in the Gardens, has enabled me to give a figure of the smallest (relatively to the size of the animal) and simplest form of cæcum yet observed in the group. It lies by the side of the ileum, without the slightest inclination to a curve in either direction. Its length is slightly less than three inches, and its greatest diameter one inch. From a contracted base it expands gradually to the middle, and continues of a cylindrical form to the termination in a conical apex.

There was no striking deviation from the ordinary canine type in any of the remaining viscera of this animal which were forwarded for my examination. The lobes and fissures of the liver agreed in all essentials with those of the common Dog. In the tongue the *lytta* (the absence of which in *Lycaon pictus* is noted by Garrod) was well developed<sup>1</sup>.

2. Second List of Mammals and Birds collected by Mr. Thomas Waters in Madagascar. By EDWARD BARTLETT, Curator of the Museum and Public Library, Maidstone.

[Received November 15, 1879.]

(Plate LXIII.)

Since my first paper<sup>2</sup> on the Mammals and Birds of Madagascar, I have received several small collections from Mr. T. Waters (who still continues his labours, and is now in South-east Betsileo country); and it affords me much pleasure to bring before the Society a list of those species which are not included in my former list.

Among the species I find one new and interesting Mammal belonging to the genus *Nesomys*, and two new species of birds of the following genera, viz. *Cypselus* and *Zapornia*, a description of which will be found under the genera which they represent.

<sup>1</sup> Since this note was communicated to the Society, Mr. Ockenden, the Professor's assistant, has shown me the cæcum of the type specimen of *Canis rudis*, Günther, from Demerara, which died in the Gardens in April last. Though not quite so small proportionally as in *C. jubatus*, it is also straight.

<sup>2</sup> P. Z. S. 1875, p. 62.

Up to the present I may mention that I have noticed 41 species of Mammals and 81 species of Birds, from Mr. Waters's collection in this district.

#### MAMMALS.

1. LEMUR CATTÀ, Linn.

Ekongo, S.W. coast of Madagascar.

Several specimens of males, females, and young.

They do not appear to vary much, except in the colour of the back, which is in some examples grey, and in others of a beautiful pinkish brown.

2. LEMUR RUFIFRONS, Geoffr.

Ekongo, S.W. coast of Madagascar.

One example.

3. LEMUR MONGOZ, Linn.

S.W. coast of Madagascar.

Examples of this species vary much in the colour of the tail, some having the tail bright reddish brown with whitish tips, while others have it of a pale yellowish brown.

4. LEMUR NIGRIFRONS, Geoffr.

S.W. coast of Madagascar.

5. LEMUR XANTHOMYSTAX, Gray.

S.W. coast of Madagascar.

6. HAPALEMUR SIMUS, Schl. & Pollen.

Ekongo and S.E. Betsileo, Madagascar.

Several examples of males and females. They vary very little in colour; and all those I have examined have the yellowish brown patch on the rump.

"They live in the bamboo forests, and feed on the young shoots of the bamboo."—*T. Waters.*

7. HAPALEMUR OLIVACEUS, Geoffr.

S.W. coast of Madagascar.

Called by the natives "Coaline."

8. CHIROGALEUS MILII, Geoffr.

Ekongo, Madagascar.

9. LEPILEMUR MUSTELINUS, Geoffr.

S.E. Betsileo, Madagascar.

Four specimens are in the present collection, which vary very much in colour:—

(1) Adult male: iron-grey, with yellowish brown tinge; tail uniform greyish brown.

(2) Adult female: crown pale grey; shoulders, back, and fore-

arms dark reddish brown ; rump and hind legs pale greyish brown ; tail blackish for half its length.

(3) Adult female : very bright rufous brown on all the upper parts, large dirty brown patch at base of tail or rump ; tail brown for half its length, paler at the base.

(4) Young male, half-grown : colour the same as No. 2 ; the only important difference is a blackish patch behind the ear.

All the above specimens have a very characteristic yellowish white stripe, which runs from the cheek down the side of the neck, and nearly unites at the lower part of the back of the neck.

10. *MICRORHYNCHUS LANIGER*, Illiger.

S.W. coast of Madagascar.

Female and young, called by the natives "Ovandroo."

11. *PROPITHECUS VERREAUXII*, Grand.

S.E. Betsileo, Madagascar.

A young male : crown brownish black, which does not extend to the nape.

12. *PROPITHECUS HOLOMELAS*, Günth.

Ekongo, S.W. coast of Madagascar.

13. *PROPITHECUS EDWARDSI*, Grand.

Ekongo, S.W. coast of Madagascar.

In a former collection (from the above locality) I received a male, female, and young of this species. The young one appeared about three or four days old : the fur is long and rough ; and the yellowish brown band across the loins (as in the adult) is very distinct.

14. *CYNOXYCTERIS STRAMINEA*, Geoff., var. *C. dupreana*, Poll  
S.E. coast of Madagascar.

15. *MINIOPTERUS SCHREIBERSI*, Natt.

S.E. Betsileo, Madagascar.

16. *MINIOPTERUS SCOTINUS*, Sund.

Ekongo, Madagascar.

Called by the natives "Hepate."

17. *VESPERTILIO GOUDOTI*, Smith, var.

*V. madagascariensis*, Tomes.

S.W. coast of Madagascar.

18. *PHYLLORHINA COMMERSONI*, Geoffr.

S.E. Betsileo, Madagascar.

Mr. G. E. Dobson has kindly determined the above-mentioned species of Bats for me.

19. *FOSSA D'AUBENTONI*, Schreb.

S.W. coast of Madagascar.

Called by the natives "Tamboading."

20. *GALIDICTIS STRIATA*, Geoffr.

S.W. coast of Madagascar.

This species is described as having seven or nine longitudinal black streaks on the back; the specimens which I have received have only six streaks.

21. *EUPLERES GOUDOTII*, Doyère.

S.E. coast of Madagascar.

22. *NESOMYS BETSILEOENSIS*, sp. nov.

S.E. Betsileo, Madagascar.

Called by the natives "Volane andrivo."

Fur soft, abundant, and shining, reddish brown, tipped with black, base nearly black; underparts of body rufous, paler on the chin and throat; feet and tail sparingly covered with short pale-coloured hairs.

Length 7 inches; tail 3 inches.

This interesting Rodent closely resembles in general appearance our common Water-Vole (*Arvicola amphibius*), differing in being much smaller, in its richer tone of colour, the fur nearly black at the base, and the tail shorter.

## BIRDS.

1. *SCOPS RUTILUS*, Puch.

S.W. coast, and S.E. Betsileo, Madagascar.

Called by the natives "Forey-Foreeg."

Egg creamy white.

2. *CYPSELUS BALSTONI*, sp. nov.

S.W. interior Betsileo country, Madagascar.

Called by the natives "Fearilsandro."

Beak black; back, primaries, scapulars, tail, and belly very dark bronze-green, inclining to black, each feather more or less tipped with pale buff, these white tips being more distinct on the belly; top of head, throat, tertiaries, and secondaries pale dirty buff, palest on throat, tinged with pale bronze-green; under the chin a series of small elongated shaft-spots; under wing-coverts pale greyish buff, with very distinct elongated shaft-spots, tips nearly white; under-side of primaries and tail nearly black; under tail-coverts brownish, quills black; legs, toes, and claws blackish brown.

Length 6 inches; wing  $6\frac{1}{4}$  inches, wing beyond tail  $1\frac{3}{8}$  inch.

Having carefully compared this Swift with a number of skins of *Cypselus apus*, I feel convinced that it is distinct from that species, and I have no hesitation in describing it under the above name. It differs in size and colour, by having the small elongated spots on the throat and on the under wing-coverts. I have much pleasure in naming this species after Mr. R. J. Balston.

3. *ATELORNIS PITTOIDES*, Lafr.

S.E. Betsileo, Madagascar.

Eggs creamy white, with a smooth surface, but not so highly polished as the egg of *Coracias garrulus*.

4. *CORYTHORNIS VINTSIOIDES*, Eyd. et Gerv.  
S.W. coast of Madagascar.  
Egg pure white and polished.
5. *UPUPA MARGINATA*, Peters.  
*Upupa madagascariensis*, Bp.  
S.W. coast of Madagascar.  
Eggs pale greyish blue, resembling those of *Upupa epops*, but rather larger.
6. *COSSYPHA SHARPII*,  
S.E. Betsileo, Madagascar.
7. *LEPTOPTERUS VIRIDIS*, Müll.  
S.E. Madagascar.
8. *PHILEPITTA CASTANEA*, Müll.  
S.E. Betsileo, Madagascar.
9. *NELICURVIUS NELICOUVI*, Scop.  
*Hyphantornis pensilis*, Gm.  
S.E. Betsileo, Madagascar.  
Eggs pale blue, about the same size as the egg of *Accentor modularis*.
10. *SERICOSOMUS SERRIANUS*, Puch.  
S.E. interior of Madagascar.  
Called by the natives "Fandaklanan."
11. *SERICOSOMUS*, sp. inc.  
Ekongo, S.E. Madagascar.  
Called by the natives "Fandaklanan."  
♂. Upper mandible brownish black, tip reddish; base of lower mandible yellowish, tip red; crown of head, neck, centre of back, scapulars, upper wing-coverts, tertials, upper tail-coverts, and two centre tail-feathers light metallic bronze-green with a rich rufous tinge, each feather broadly tipped with darker rufous brown; rump, chin, neck, breast, belly, flanks, and vent slaty grey, slightly tinged with metallic-green and narrowly tipped with rufous, the rufous being most conspicuous on the breast; primaries and the remaining eight tail-feathers rich metallic-green with a slight rufous tinge, and tipped with the same colour; legs black. Length  $15\frac{1}{2}$  inches, wing 5, tarsus  $1\frac{3}{4}$ .  
This is a young bird, probably of *Coua reynaudi*.
12. *CUCULUS ROCHII*, Hartl.  
S.W. coast, and S.E. Betsileo, Madagascar.  
Called by the natives "Kang-kappena."



## 13. FUNINGUS MADAGASCARIENSIS, L.

S.E. Madagascar.

Called by the natives "Firniga-muigu."

## 14. CENA CAPENSIS, L..

S.E. coast of Madagascar.

## 15. MESITES VARIEGATUS, Geoffr.

S.E. coast of Madagascar.

See remarks on the affinities of this genus, Proc. Zool. Soc. 1877, p. 291.

## 16. ANASTOMUS LAMELLIGERUS, Temm.

S.W. coast of Madagascar.

## 17. GALLINAGO BERNIERI, Puch.

S.E. Betsileo, Madagascar.

Male, female, and eggs are in the collection.

Egg pale brown, spotted and blotched with various tints of dark brown, principally at the large end, about the same size as the egg of *Gallinago major*.

## 18. BIENSIS MADAGASCARIENSIS, Verr.

S.E. Betsileo, Madagascar.

Male and female of this interesting Rail are in the collection.

This bird appears to me to belong to the genus *Rallus*; it resembles closely *R. aquaticus* and its allies.

## 19. ZAPORNIA PYGMEA, Naum.

*Zapornia baillonii*, V.

S.E. Betsileo, Madagascar.

Specimens of this species, with the eggs, are in the collection.

## 20. ZAPORNIA WATERSI, sp. nov. (Plate LXIII.)

S.E. Betsileo, Madagascar.

♂. Beak dark brown; top of head, neck, throat, and breast chestnut-brown, darker on top of the head, paler on the chin; centre of back, scapulars, and upper wing-coverts dark brown, each feather having an elongated black centre; primaries and secondaries dusky brown; upper tail-coverts, tail, and under tail-coverts dark chestnut-brown, tipped with black; belly, thighs, and vent dark slaty brown; legs, toes, and claws pale brown.

Length  $5\frac{1}{4}$  inches, wing  $2\frac{3}{4}$ .

♀. Beak dark brown; crown of head and neck dark brown, tinged with rufous, with very pale indistinct bars near the tips of each feather; back, scapulars, tertials, and upper wing-coverts dark brown, the centre of each feather blackish, with from four to six whitish spots and bars on the outer edges of the webs of each feather; primaries dusky black, with two or three very indistinct whitish spots on the outer web of the first and second quill-feathers; upper tail-coverts, tail, and lower tail-coverts chestnut-brown, barred with black

and white; throat, cheeks, breast, and belly dirty white, tipped with very pale brown; sides, flanks, and vent greyish brown, barred and spotted with white; legs, toes, and claws pale brown.

Length  $5\frac{1}{4}$  inches, wing  $2\frac{3}{4}$ .

This interesting little Rail I submitted to Mr. R. B. Sharpe, who kindly pronounced it to be a new species; therefore I have much pleasure in naming it after the collector, Mr. T. Waters.

21. *PODICEPS PELZELNI*, Hartl.

S.W. interior of Madagascar.

22. *FULMARUS GIGANTEUS*, Gm.

S.W. coast of Madagascar.

23. *PLOTUS LEVAILLANTII*, Licht.

S.E. Madagascar.

### 3. Descriptions of new Species of Phytophagous Coleoptera.

By MARTIN JACOBY.

[Received November 24, 1879.]

#### Genus LEMA.

1. *LEMA CHAMPIONI*, sp. nov.

Elongate, subparallel, fulvous. Head and breast black; antennæ piceous, their base and apex fulvous; elytra punctate-striate, dark violaceous blue, shining, a slightly curved median transverse band and the apex fulvous.

Length  $3\frac{2}{3}$  lines.

*Hab.* Zapote, Guatemala.

Head not constricted behind the eyes, impunctate; lateral grooves very deep; eyes deeply emarginate, large, the space surrounding them distinctly punctured; epistome impunctate, shining black; antennæ rather robust, of half the length of the body, the second joint very short, third joint double the length, the basal as well as the fourth to the seventh joints piceous, or black, the rest light fulvous; thorax slightly longer than broad, moderately constricted in the middle at each side, base scarcely perceptibly impressed, surface impunctate, fulvous. Scutellum black. Elytra much broader than the thorax, rather convex and parallel, narrowly transversely depressed below the base, deeply punctate-striate at their anterior half, the punctuation gradually diminishing, and almost obsolete towards the apex, where the interstices are slightly convex, the latter also minutely punctate, of a dark violaceous blue, the middle is occupied by a slightly convex fulvous band extending to the lateral margins, while the entire apex is of the same colour. Abdomen and legs also fulvous.

Collected by Mr. Champion.